

The 20th European Meeting on Fire Retardant Polymeric Materials

FRPM 2025, 03.-06. June, 2025. Madrid, Spain

CONFERENCE PROGRAM

ORGANIZED BY

IMDEA MATERIALS INSTITUTE

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SOCIAL EVENTS

REGISTRATION & WELCOME RECEPTION

Time slot: 17h30 - 20h30

Date: Tuesday 3rd June

Location: "ONLY YOU" Hotel, Paseo Infanta Isabel, 13, 28014, Madrid.

POSTER SESSION WITH JAMON TASTE

Time slot: 18h30 – 20h00

Date: Wednesday 4th June

Location: Outdoor tent, UPM Retiro building, C. de Alfonso XII, 3, y 5, Retiro, 28014 Madrid.

GALA DINNER IN ASSOCIATION WITH MOTIS

Time slot: 19h30 – 23h30

Date: Thursday 5th June

Dinner Venue: Restaurant "**La Masía de José Luis**"

Dinner Venue location: Calle Principal de las provincias S/N – Recinto Ferial Casa de Campo

Means of transportation: conference bus

Meeting point: In front of restaurant "**Bar El Brillante**" (Pl. del Emperador Carlos V, 8)

Conference Bus Departure time: 19h30

Conference Bus Return time: 23h30

Bus Return Location: same as meeting point

Time	Tuesday 3 rd June	Wednesday 4 th June	Thursday 5 th June			Friday 6 th June		
07:30		07:30-08:30 Registration	07:30-08:30 Registration			07:30-08:30 Registration		
		08:30-08:50 Welcome speech	08:30-10:15 Session 5 / “Aulario” room			08:30-09:00 Session 10 / “Aulario” Room		
		08:50-09:00 Special Plenary talk						
		09:00-10:20 Session 1 / “Aulario” room				09:05-10:25 Session 11.1 “Aulario”	09:10-10:25 Session 11.2 “Salon de Actos”	09:10-10:25 Session 11.3 “Room 14” (first floor)
		10:20-10:50 Coffee break (Outdoor tent)	10:15-10:45 Coffee break (Outdoor tent)			10:25-10:55 Coffee break (Outdoor tent)		
		10:50-12:10 Session 2 / “Aulario” room	10:50-12:40 Session 6.1 “Aulario” room	10:55-12:45 Session 6.2 “Salon de Actos”	10:55-12:45 Session 6.3 “Room 14” (first floor)	10:55-12:25 Session 12.1 “Aulario”	10:55-12:35 Session 12.2 “Salon de Actos”	10:55-12:35 Session 12.3 “Room 14” (first floor)
		12:10-12:45 1min Poster presentation						
		12:45-14:00 Lunch (Outdoor tent)	12:45-14:00 Lunch (Outdoor tent)			12:35-14:00 Lunch (Outdoor tent)		
14:00	Registration 17:30-19:00 at Reception hall in “ONLY YOU” Hotel	14:00-15:20 Session 3 / “Aulario” room	14:00-14:30 Session 7 / “Aulario” room			14:00-15:50 Session 13 / “Aulario” room		
			14:40-16:00 Session 8.1 “Aulario” room	14:40-16:05 Session 8.2 “Salon de Actos”	14:40-16:05 Session 8.3 “Room 14” (first floor)			
		15:20-15:55 1min poster presentation				15:50-16:20 Farewell speech <i>Pinfa</i> & Best young scientist oral awards “Aulario” Room		
		15:55-16:25 Coffee break (Outdoor tent)	16:05-16:35 Coffee break (Outdoor tent)					
		16:25-18:10 Session 4 / “Aulario” room	16:35-18:30 Session 9.1 “Aulario” room	16:35-18:30 Session 9.2 “Salon de Actos”	16:35-18:30 Session 9.3 “Room 14” (first floor)			
18:30	19:00-20:30 Welcome reception Rooftop in “ONLY YOU” Hotel	18:30-20:00 Jamón taste + Poster exhibition (Outdoor tent)	Bus Shuttle departing at 19.30 from Atocha Gala dinner in association with MOTIS at 20.00 Best poster & oral student awards					

Technical conference program

Day 1

June 3 | Tuesday

17h30 - 19h00

REGISTRATION

Reception hall at "ONLY YOU" Hotel

19h00 – 20h30

WELCOME RECEPTION

Welcome reception Rooftop in "ONLY YOU" Hotel

Day 2

June 4 | Wednesday

07h30 – 08h30

REGISTRATION

Reception hall at UPM Retiro building

08h30 – 08h50

WELCOME SPEECH

Prof. Dr. José Manuel Torralba, Director of IMDEA Materials Institute

Prof. Dr. De-Yi Wang, Conference Chair

08h50 – 09h00

SPECIAL PLENARY TALK

Prof. Dr. Klaus Mainzer

President of the European Academy of Sciences and Arts

Talk title: Artificial Intelligence for Materials Science.

SESSION 1

Room "AULARIO" at UPM Retiro building

Session Chairs:

Prof. Dr. Serge Bourbigot

Prof. Dr. Sheng Zhang

09h00 – 09h30

Plenary 1

Sabyasachi Gaan: Recyclability and Fire Protection of Networked Polymers: Killing Two Birds with One Stone.

09h30 – 09h55

Keynote 1

Jaime Grunlan: Polyelectrolyte-Based Fire Protection of Polymeric Materials.

09h55 – 10h20

Keynote 2

Manfred Döring: Different Chemical Environment in Phosphorus Flame Retardants and Their Mode of Action in the Gas Phase.

10h20 – 10h50

Coffee Break, sponsor exhibition

SESSION 2

Room “AULARIO” at UPM Retiro building

Session Chairs:

Prof. Dr. Yu-Zhong Wang

Prof. Dr. Manfred Döring

10h50 – 11h20

Plenary 2

Serge Bourbigot: Fire Behavior of Materials Undergoing Hydrogen Jet Fire.

11h20 – 11h45

Keynote 3

Laurent Ferry: Correlation Between Fire Tests on FR Polymers: What Can be Expected?

11h45 – 12h10

Keynote 4

Alexander B. Morgan: New Standards for Heat Release and Smoke Release for the Cone Calorimeter.

12h10 – 12h45

1min Poster session 1 (Details on page 21)

12h45 – 14h00

Lunch, sponsor exhibition

SESSION 3

Room “AULARIO” at UPM Retiro building

Session Chairs:

Prof. Dr. Jaime Grunlan

Dr. Sabyasachi Gaan

14h00 – 14h30

Plenary 3

Mauro Zammarano: Trends in Fire Regulations, Standardization, and Testing: Shifting From Fire Retardants to Integrated Fire Barriers in Engineered Products.

14h30 – 14h55

Keynote 5

Sheng Zhang: Advancements in Flame Retardant Materials With Photovoltaic Conversion Properties.

14h55 – 15h20

Keynote 6

Andrea Toldy: Sustainability Meets Safety: Designing Flame Retarded Fibre-Reinforced Composites for Recycling.

15h20 – 15h55

1min Poster session 1 (Details on page 22)

15h55 – 16h25

Coffee Break, sponsor exhibition
SESSION 4
Room “AULARIO” at UPM Retiro building
Session Chairs:
Dr. Mauro Zammarano
Prof. Dr. Bin Fei

16h25 – 16h55

Plenary 4

Lin Chen: Chemical Design of Closed-Loop Recyclable Flame-Retardant Polyesters.

16h55 – 17h20

Keynote 7

Carl-Eric Wilen: Strategies for Flame Retardancy of Natural Materials.

17h20 – 17h45

Keynote 8

Sophie Duquesne: Sustainable Approaches for the Flame Retardancy of Wood and Bio-Based Composites.

17h45 – 18h10

Keynote 9

Xiaoyu Gu: Aiming at Durable Flame Retardancy, Smoke Suppression and Qualified Mechanical Properties of Polyurea.

18h30 – 20h00

Jamon taste and Poster exhibition

Day3

June 5 | Thursday

SESSION 5 Room "AULARIO" at UPM Retiro building

Session Chairs: Prof. Dr. Jenny Alongi

Prof. Dr. Carl-Eric Wilen

08h30 – 09h00 **Plenary 5**

Baljinder Kandola: Early Fire Detection in Carbon Fibre Composites: Sensing Strategies and Technologies.

09h00 – 09h25 **Keynote 10**

Bernhard Schartel: $1 + 1 \neq 2$ – Laminate Materials Meet Flame Retardancy.

09h25 – 09h50 **Keynote 11**

Federico Carosio: Polyelectrolyte Complexes: From Surface to Bulk Flame-Retardant Materials.

09h50 – 10h15 **Keynote 12**

Jixin Zhu: Lithium Batteries Storage and Fire Safety.

10h15 – 10h45 **Coffee Break, sponsor exhibition**

SESSION 6.1

Parallel session at room "AULARIO" in UPM Retiro building

TOPIC A: New developments in flame retardants

Session Chairs: Prof. Dr. Laurent Ferry

Prof. Dr. Xin Wang

10h50 – 11h10 **Invited 1**

Weiyi Xing: Achieving Scratch Resistance and Flame Retardancy in Transparent Polycarbonate Through P/N/Si Synergistic Coating.

11h10 – 11h30 **Invited 2**

Aurelio Bifulco: Effect of Mixed Oxides as Acid Catalysts in Phosphine Oxide Epoxy-Based Covalent Adaptable Networks.

11h30 – 11h45 **Oral 1**

Rong-Kun Jian: Interfacial Clustering-Derived Fluorescent, Mechanically Strong and Fire-Safe Epoxy Composites.

11h45 – 12h00

Oral 2

Kamila Salasinska: Bio-Sourced Flame Retardant System for Engineering Plastic.

12h00 – 12h10

Short oral 1

Sabatino Carolini: Bio-Based Novel Fire Protective Coatings to Enhance Building Resilience in the Wildland-Urban Interface.

12h10 – 12h20

Short oral 2

Shuang Qiu: Preparation of Flame-Retardant and Toughened Polycarbonate via Reactive Blending of Polyborosiloxane Elastomer.

12h20 – 12h30

Short oral 3

Péter Csvila: Design of Multifunctional Thermoset Resin with ZnO and Expandable Graphite.

12h30 – 12h40

Short oral 4

Ruofan Yang: 2D/0D MMT/Zinc Hydroxystannate Nanocomposite Simultaneously Enhancing the Fire-Safety and Mechanical Properties of Wood Plastic Composites”.

SESSION 6.2

Parallel session at room “SALÓN DE ACTOS” in UPM Retiro building

TOPIC B: Flame retardant innovations in emerging industries (e-mobility, construction, 5G telecommunication and new policy, etc.)

Session Chairs: Prof. Dr. Andrea Toldy

Dr. Guang-Zhong Yin

10h55 – 11h15

Invited 3

Li Chen: Construction of In-Situ Dual Networks Towards Simultaneously Flame-Retarding and Toughening Epoxy Resins.

11h15 – 11h30

Oral 3

Imaran Waseem: Sustainable Flame Retardant for Polyisocyanurate Insulation Foam.

11h30 – 11h45

Oral 4

Gui Zhou: Synthesis of Nano - Red Phosphorus and its Applications as Flame Retardant Additives for Polystyrene.

11h45 – 12h00

Oral 5

Ye-Tang Pan: Porous Liquids Assist Metal-Organic Frameworks Towards Better Dispersed Flame Retardants in Polymer Matrices.

12h00 – 12h15

Oral 6

Jose Sanchez del Rio: High Sensitive Fire-Safety Sensors Based on TENGs and Graphene-based Materials.

12h15 – 12h25

Short oral 5

Soufyane Laidioui: Low Density Phenolic Foams: Fire and Mechanical Properties.

12h25 – 12h35

Short oral 6

Wen Ye: Impact of Polyphosphazene Morphology on Flame Retardant Efficiency in Epoxy Composites.

12h35 – 12h45

Short oral 7

Zongquan Zhao: MOF-Directed Assembly of Nickel Phyllosilicate Composite Structures: Efficient Flame Retardancy, Mechanical Reinforcement, and Wear Resistance of Epoxy Nanocomposites.

SESSION 6.3

Parallel session at room "ROOM 14" in UPM Retiro building

TOPIC F: Sustainability and recycling of flame-retardant polymers

Session Chairs:

Dr. Alexander B. Morgan

Prof. Dr. Gang Wu

10h55 – 11h15

Invited 4

Qingsheng Wang: Investigating Flame-Retardant Properties of Phytic Acid-Lysine (Palys) Salt and Epoxidized Tannic Acid (ETA) in a PLA Matrix.

11h15 – 11h30

Oral 7

Arvinth Sekar: Fully Recyclable Flame Retardant Phosphonated Thermoset Composites.

11h30 – 11h45

Oral 8

Bo Wu: Simple and Efficient Full Recycling of Flame-Retardant Polyester.

11h45 – 12h00

Oral 9

Jun Sun: Multifunctional Flame Retardant Polylactic Acid Composites with Long Life, Fast Degradation and Recyclable.

12h00 – 12h15

Oral 10

Yanyan Liu: Fumes Suppression Effect and Road Performance of Modified Asphalt Investigation by Halloysite Nanotubes.

12h15 – 12h25

Short oral 8

Luca Scopel: Influence of Phospho-Halogenated Flame Retardant on the Chemical Recycling of Polyisocyanurate Foam.

12h25 – 12h35

Short oral 9

Lorenza Abba: Lightweight and Flame Retardant Polyelectrolyte Complex Composite Materials Based on Tannery Wastes.

12h35 – 12h45

Short oral 10

Razan Alksharqawi: Chemical Recycling of Flame-Retarded Plastics: Product Debromination through Pyrolysis Using Calcium-Based Sorbents.

12h45 – 14h00

Lunch, sponsor exhibition
SESSION 7
Room “AULARIO” at UPM Retiro building
Session Chair:
Prof. Dr. T. Richard Hull

14h00 – 14h30

Plenary 6

Jenny Alongi: α -Amino Acid-Derived Polyamidoamines as Flame Retardants for Cotton.

SESSION 8.1
Parallel session at room “AULARIO” in UPM Retiro building
TOPIC A: New developments in flame retardants
Session Chairs:
Prof. Dr. Vera Realinho
Prof. Dr. Dinghua Li

14h40 – 15h05

Keynote 13

Fang Wang: Advanced Multifunctional Flame-Retardant Coatings and Fabrics.

15h05 – 15h25

Invited 5

Richard K. K. Yuen: Insights on Carbon-Based Flame Retardant Materials Using Reaxff Molecular Dynamics Modelling.

15h20 – 15h30

Short oral 11

Zsófia Kovács: Synergistic Flame Retardancy in Polyamide 6: The Combined Action of Expandable Graphite and Heteroatom-Containing Additives.

15h30 – 15h40

Short oral 12

Zeqi Zhang: Flame Retardant Modification of Vinyl Ester Resin and Its Carbon Fiber Composites with Phosphorus-Containing Ionic Liquids.

15h40 – 15h50

Short oral 13

Mateusz Imiela: New Elastomeric Ceramizable Composites Based on Butadiene-Acrylonitrile Rubber Filled with Talc.

15h50 – 16h00

Short oral 14

Yunhuan Liu: Fire Protection Coatings for Enhanced Fire Safety of Battery Enclosures in Extreme Conditions.

SESSION 8.2

Parallel session at room “SALÓN DE ACTOS” in UPM Retiro building

TOPIC E: Bio-based flame retardants and polymers

Session Chairs:

Prof. Dr. Federico Carosio

Prof. Dr. Li Chen

14h40 – 15h05

Keynote 14

Fouad Laoutid: Novel Perspectives on Developing Bio-Based Flame Retardants through Mechanochemistry.

15h05 – 15h20

Oral 11

Jing Zhang: A Molecularly Engineered Tannic Acid Derived Schiff Base for Enhancing Flame Retardancy, Anti-dripping, UV Resistance and Mechanical Properties of PLA Composites and Fiber.

15h20 – 15h35

Oral 12

Pedro L. de Hoyos-Martinez: Chemically Modified Lignin: A Sustainable Fireproofing Solution for PLA Composites.

15h35 – 15h45

Short oral 15

Jan Wagner: This Is the Way: An Evidence Based Route to Phytic-Acid-Based Flame Retardant Poly(Lactide Acid).

15h45 – 15h55

Short oral 16

Jose Pablo Chacon Castro: Flame Retardant Poly(Limonene Carbonate): Material Innovation as a Game Changer.

15h55 – 16h05

Short oral 17

Jimena de la Vega: Light-Weight Flame-Resistant Aerogel with Multifunctional Properties from Seaweed-Derived Residue.

SESSION 8.3

Parallel session at room “ROOM 14” in UPM Retiro building

TOPIC D: Fire-safe new energy materials (Li-ion batteries, e-powertrain, charging stations, phase change materials, etc.)

Session Chairs: Prof. Dr. Henri Vahabi

Prof. Dr. Qingsheng Wang

14h40 – 15h00

Invited 6

Laura Figel: Sustainable Mycelium Composites: Innovative Fire Retardant Solutions from Wood By-Products.

15h00 – 15h20

Invited 7

Guang-Zhong Yin: Flame Retardant Polyrotaxane based Phase Change Materials.

15h20 – 15h35

Oral 13

Arnab Ghosh: Deciphering a New Electrolyte Formulation for Intelligent Modulation of Thermal Runaway to Improve the Safety of Lithium-Ion Batteries.

15h35 – 15h45

Short oral 18

Mingyang Zhang: Do Fire-safe Electrolytes Guarantee Enhanced Fire Safety for Lithium-Ion Batteries?

15h45 – 15h55

Short oral 19

Tianyang Cui: Enhanced Thermal Stability and Flame Retardancy of Photothermal Materials: Experimental Validation and Molecular Dynamics Investigation.

15h55 – 16h05

Short oral 20

Qi Chen: Phenyl Phosphonic Incorporation for Construction of Self-Extinguishing Polymer Electrolytes with Enhanced Electrochemical Performance.

16h05 – 16h35

Coffee Break, sponsor exhibition

SESSION 9.1

Parallel session at room "AULARIO" in UPM Retiro building

TOPIC B: Flame retardant innovations in emerging industries (e-mobility, construction, 5G telecommunication and new policy, etc.)

Session Chairs: Prof. Dr. Aurelio Bifulco

Prof. Dr. Weiyi Xing

16h35 – 16h50

Oral 14

Dinghua Li: Design, Synthesis and Application of a Novel Phosphazene Compound Containing Schiff-Base Groups.

16h50 – 17h05

Oral 15

Antoine Ishak: Synthesis of Novel Reactive Flame Retardant to Improve Fire Resistance and Mechanical Properties in Epoxy Resin.

17h05 – 17h20

Oral 16

Birong Zeng: Si-Doped Borate-Based Epoxy Resin Vitrimers with Low Dielectric, High Toughness, Hydrolysis Resistance.

17h20 – 17h35

Oral 17

Sandro Lehner: Clear Protection: Transparent Flame Retardant Novolac Epoxy Composites.

17h35 – 17h50

Oral 18

Qin Zhang: Simultaneous Strengthening and Flame Retardancy of Polyamide via Room-Temperature H-Bonding and High-Temperature Carboxylic Acid Trapping.

17h50 – 18h00

Short oral 21

Xin Jiang: An Individualized Core–Shell Architecture Derived from Covalent Triazine Frameworks: Toward Enhancing the Flame Retardancy, Smoke Release Suppression, and Toughness of Bismaleimide Resin.

18h00 – 18h10

Short oral 22

Wei Tang: Fireproof Coating with Fast Response and Prolonged Protection Effect in Multiple Applications.

18h10 – 18h20

Short oral 23

Pengfei Jia: Microencapsulated Flame Retardants for Improving Fire Safety and Aging Resistance of Cable Materials.

18h20 – 18h30

Short oral 24

Yuanfang Ai: Boron Phosphates In-Situ Generated from Bilayer Coating Approach for Flame-Retardant Applications.

SESSION 9.2

Parallel session at room “SALÓN DE ACTOS” in UPM Retiro building

TOPIC E: Bio-based flame retardants and polymers

Session Chairs: **Dr. Fouad Laoutid**

Dr. Arnab Ghosh

16h35 – 16h50

Oral 19

Frank Schönberger: Phosphorus-Containing Flame Retardants Derived From Cellulose – Synthesis and Structural Characterization.

16h50 – 17h05

Oral 20

Vera Realinho: Analysis of Cork Phosphorylation and Its Effect on Thermal Stability and Fire Performance of Acrylonitrile-Butadiene-Styrene

17h05 – 17h20

Oral 21

Claudia Schirp: Evaluation of Bio-Based Binders to Achieve Highly Efficient Flame-Retardant and Transparent Wood Coatings.

17h20 – 17h35

Oral 22

Xiang Ao: Protective Coating Performance for Structural Integrity of Polymer Composites in Fire: Novel Bench Scale Instrument Design and Coupon Level Test.

17h35 – 17h50

Oral 23

Vincent Leon: Flame-Retardant Adhesive Tapes.

17h50 – 18h00

Short oral 25

Francesca Rocchi: Formulation of a Bio-Based Fireproof Coating for Forest Fire Protection.

18h00 – 18h10

Short oral 26

Raphael Otto: Exploring the Impact of Siloxane Networks on the Thermal Behavior of P/N-Enriched Flame Retardant Finishes for Cotton Fabric.

18h10 – 18h20

Short oral 27

Niklas Tomasik: Steady-State Pyrolysis of Flame-Retardant Coated Textiles, a Mass Spectrometric In-Situ Investigation.

18h20 – 18h30

Short oral 28

Emma André: Interactions of Unprotected and Protected Artistic Painting During a Fire Disaster – A Model Study.

SESSION 9.3

Parallel session at room "ROOM 14" in UPM Retiro building

TOPIC A: New developments in flame retardants

Session Chairs: Prof. Dr. Sophie Duquesne

Prof. Dr. Ye-Tang Pan

16h35 – 16h50

Oral 24

Daniel De Schryver: Brominated Flame Retardants for Electric Vehicles – Safe, Sustainable and Versatile.

16h50 – 17h05

Oral 25

Xiaowei Mu: Silicone Rubber with Good Reversible Actuation and High Fire Safety for Temperature- and Humidity- Independent Strain Sensors.

17h05 – 17h20

Oral 26

María Expósito Delgado: Development of Flame Retardants through Sustainable Processes and Fire Evaluation in Polymer Materials.

17h20 – 17h35

Oral 27

Wei Cai: Structure Engineering of SiO₂ for Achieving Flame Retardancy and Daytime Radiative Cooling Performance.

17h35 – 17h45

Short oral 29

Liangyuan Qi: Advanced Janus Coatings for Thermal Management and Synergistic Flame Retardancy in Polyester Fabric.

17h45 – 17h55

Short oral 30

Yi Wang: Enhancing Mechanical Properties and Flame Retardancy of Epoxy Resins via Electronic Effect.

17h55 – 18h05

Short oral 31

Mei-hui Zhou: Bio-Based Flame-Retardant Epoxy Vitrimer: Flame Retardancy and Recyclability.

18h05 – 18h15

Short oral 32

Thomas Roche: Use of a Milligram-Scale Flame Calorimeter to Screen Fabrics for Flammability and Thermal Protective Performance.

18h15 – 18h25

Short oral 33

Kimkévín Ha: Innovative Techniques for Heat Release Rate Analysis and Chemical Interactions Assessment in Aircraft Cabin Materials.

19h30	Conference bus departure (check more information on the social event page).
20h00 – 23h30	Gala dinner in association with Motis at Restaurant “La Masía de José Luis” Best poster & oral student award

Day4

June 6 | Friday

SESSION 10

Room "AULARIO" at UPM Retiro building

Session Chair:

Prof. Dr. Bernhard Schartel

08h30 – 09h00

Plenary 7

Jürgen H. Troitzsch: Fire Safety of Construction Products in the EU: Trends and Challenges.

SESSION 11.1

Parallel session at room "AULARIO" in UPM Retiro building

TOPIC F: Sustainability and recycling of flame-retardant polymers

Session Chairs:

Prof. Dr. Laia Haurie

Prof. Dr. Xiu-Li Wang

09h05 – 09h25

Invited 8

Yun Liu: A Novel Phosphorus/Boron/Nitrogen-Containing Flame Retardant for the Preparation of Ramie Fiber Reinforced Epoxy Composites with Excellent Flame Retardancy and Mechanical Properties.

09h25 – 09h40

Oral 28

Helge-Otto Fabritius: Phosphorus-Containing Flame Retardants Derived from Cellulose – Fire Retardancy Mechanisms in Polypropylene Compounds.

09h40 – 09h55

Oral 29

Katalin Bocz: Flame-Retarded Recycled Pet Foams – Manufacturing, Structure, and Properties.

09h55 – 10h10

Oral 30

Mercedes Santiago-Calvo: Recycled Polyethylene Terephthalate with Improved Rheological and Fire Properties for Construction Applications.

10h10 – 10h25

Oral 31

Bo-Wen Liu: Chemically Recyclable, Flame-Retardant and Mechanically Robust Aliphatic Polyamide.

SESSION 11.2

Parallel session at room "SALÓN DE ACTOS" in UPM Retiro building

TOPIC A: New developments in flame retardants

Session Chairs:
Prof. Dr. Masayuki Okoshi
Prof. Dr. Bo Wu

09h10 – 09h35

Keynote 15

Yajun Chen: Achieving Balanced Transparency and Flame Retardancy in TPU: Material Innovations and Mechanisms.

09h35 – 09h55

Invited 9

Gaelle Fontaine: In-Depth Study of Intumescent Geopolymers for Fire Resistance.

09h55 – 10h10

Oral 32

Sabine Fuchs: Halogen-free Synthesis of Phosphoric Ester Salts from Phosphorus Pentoxide: A 'Green' Flame Retardant Toolbox for Engineering Plastics.

10h10 – 10h25

Oral 33

Zhi Li: Ultrafast Catalytic Charring towards Highly Efficient Anti-flammability of Polymeric Materials.

SESSION 11.3
Parallel session at room "ROOM 14" in UPM Retiro building
TOPIC B: Flame retardant innovations in emerging industries (e-mobility, construction, 5G telecommunication and new policy, etc.)
Session Chairs:
Dr. Thomas Mayer-Gall
Dr. Xiaowei Mu

09h10 – 09h35

Keynote 16

Yingjun Xu: Polymeric Flame-Retardant Additives for Producing Regenerated Cellulose Fibers.

09h35 – 09h55

Invited 10

Gang Wu: Flame-Retardant Advanced Polymer Electrolytes for Safer High-Performance Lithium-Metal Batteries.

09h55 – 10h10

Oral 34

Arne Schirp: Flame-Retarded, Thermoplastic Sheets for Hot-Pressing on Poplar Plywood: A Recyclable Alternative to Thermoset Laminates.

10h10 – 10h25

Oral 35

Jingwen Wang: Flame Retardant Design of Poly(thioctic Acid) Ionogels for Safety Perception and Warning.

10h25 – 10h55

Coffee Break, sponsor exhibition

SESSION 12.1

Parallel session at room “AULARIO” in UPM Retiro building

TOPIC G: Modelling, numerical methods and machine learning of Flame Retardant Materials

Session Chairs: Prof. Dr. Gaelle Fontaine

Prof. Dr. Yun Liu

10h55 – 11h15

Invited 11

Alessandra Lorenzetti: Synergistic Effect in Intumescent Systems: The Use of Statistical Models and Experimental Data.

11h15 – 11h35

Invited 12

Qiong Tan: Machine Learning Framework to Predict Instantaneous Heat Release Rate of Polymer Nanocomposites in Cone Calorimetry.

11h35 – 11h55

Invited 13

Karen De Lannoye: Measurement of the Average Molecular Formula of Gaseous Pyrolyzates Produced by Combustible Solids.

11h55 – 12h10

Oral 36

Ákos Pomázi: Numerical Methods for Prediction of the Fire Performance of Fibre-Reinforced Thermoset Composites.

12h10 – 12h25

Oral 37

Yunxian Yang: Effect of Alkynyl Group on the Charring Construction and Flame Retardancy of Thermoplastic Polyurethane.

SESSION 12.2

Parallel session at room “SALÓN DE ACTOS” in UPM Retiro building

TOPIC H: Testing, characterization and evaluation of flame retardant materials

Session Chairs: Prof. Dr. Sabine Fuchs

Prof. Dr. Zhi Li

10h55 – 11h15

Invited 14

Masayuki Okoshi: Evaluation of the Combustion Behavior of CFRP (Carbon Fiber Reinforced Plastics) and the Application in EVs (Electric Vehicle Substance) Using the CFRP Characteristics.

11h15 – 11h35

Invited 15

Laia Haurie: Smouldering in Corn Pith Bio-Based Thermal Insulation Materials.

11h35 – 11h50

Oral 38

Carl-Christoph Höhne: Flame Retardants Towards Application – Current Issues in Assessment and Material Testing.

11h50 – 12h05

Oral 39

Iben Hansen-Bruhn: Microscale Combustion Calorimetry for Development of Fire Protective Paints.

12h05 – 12h20

Oral 40

Emil O. Lifmsn Olsson: Assessing Fire Resistance of Intumescent Coatings for Structural Steel Using the 'Coast-Fire'.

12h20 – 12h35

Oral 41

Toussaint Barboni: Large-scale Setup for Performance Evaluation of Fire-Retardant Treatments at Wildland-Urban Interfaces: Case of Intumescent Coatings.

SESSION 12.3

Parallel session at room "ROOM 14" in UPM Retiro building

TOPIC E: Advanced intumescent and Synergistic systems

Session Chairs:

Prof. Dr. Xiaoyu Gu

Dr. Lodovico Agostinis

10h55 – 11h15

Invited 16

Thomas Mayer-Gall: Triazine Based Multitpurpose Flame Retardants.

11h15 – 11h35

Invited 17

Xiu-Li Wang: Mechanically Robust, Ultra-Transparent, Super-Fire Resistant and Recyclable Polycarbonate.

11h35 – 11h50

Oral 42

Piotr K. Szewczyk: Nanofiller Reinforced Flame-Retardant and Mechanically Superior Nanofibrous Composites.

11h50 – 12h05

Oral 43

Lijie Qu: Flame Retarded and Liquid Oxygen Compatible Epoxy Resin Facilitated by Clustered Phosphorus-Silicon Synergism.

12h05 – 12h20

Oral 44

Xiang-Xin Xiao: Synergistic Approaches for Fabricating Low Heat and Smoke Release Polycarbonate Copolymers.

12h20 – 12h35

Oral 45

Xiaodong Jin: The Preparation of Flame Retardant Polyamide 11 by Intumescent Systems.

12h35 – 14h00

Lunch, sponsor exhibition

SESSION 13

Room “AULARIO” at UPM Retiro building

Session Chair:

Prof. Dr. Baljinder Kandola

14h00 – 14h30

Plenary 8

T. Richard Hull: Fire retardants and the circular economy.

14h30 – 15h00

Plenary 9

Xin Wang: Sustainably Sourced Vitrimeric Epoxy Thermosets with Intrinsic Anti-flammability, Recycling and Self-Healing Capabilities.

15h00 – 15h25

Keynote 17

Bin Fei: Environmental Photonic Energy Manipulation with Fire Safety Materials.

15h25 – 15h50

Keynote 18

Adrian Beard: How to Develop Safe and Sustainable-By-Design (SSbD) Flame Retardants – An Update on the European Concept and Regulatory Framework.

15h50 – 16h20

FAREWELL SPEECH

Pinfa award

Best Young Scientist Oral Award

POSTER LIST

The poster exhibition will take place after the last 1min poster session from 18h30 – 20h00 at June 4th 2025.

1min pitch poster session 1 (12h10-12h45)

P1	Matthias Bischoff	Ammonium-Phytates as Sustainable and Highly Efficient Flame Retardants in Bio-HDPE-Wood Composites
P2	N. L. Sabel	Investigation and Characterisation of a Fire Protecting Intumescent Coating
P3	Hao Yu	Constructing Flame Retardant Microspheres for Safe and Stable Poly (Ethylene Oxide) Based All-Solid-State Batteries at High Voltage
P4	Diana Amin Alsayed	Improving Optical Cable Safety with Advanced Flame-Retardant Formulations
P5	Mateusz Dudziak	Synergistic Effect of Commercial and Natural Flame Retardants in Polylactide Biocomposites
P6	Zhihui Li	Synthesis of Phosphorylated Chitosan CSP and Its Effect on Properties of Nylon
P7	Milijana Jović	Flame Retarding Polyamide Textiles with Polyurethane Back Coatings Containing Bridged Phosphorus Sulfur Compounds
P8	Zheng Li	Natural Glue for Aminated Graphene Oxide on Ammonium Polyphosphate in “Multiphase Integrated” Polymer Composites
P9	Jalal Ahmad	Engineering Bio-Based Polyamide Composites via Functional Flame Retardant Synthesis and Intelligent Formulation Optimization
P10	Marianne Cochez	Advancing Sustainable Bioeconomy: Developing Eco-Friendly Composite Materials from Nettle Fibers and PLA
P11	Giuseppe Trapani	Protective Nanostructured Flame Retardant Coatings Containing LDHs
P12	Miguel Ángel Mafé	Review of Sustainable Flame Retardants Through Different Sectors
P13	Chun-Bo Li	Stretchable Hierarchical Textures Enabling Environmentally Adaptive Flame Retardant and Superamphiphobic Coatings
P14	Guoqing Liu	Flame Retardant Microspheres for Safe High Voltage Polymer Electrolytes
P15	Jose Hobson	A Phosphorus and Nitrogen Containing Halloysite Derivative as Multifunctional Flame Retardant for Biobased Polyamide 66
P16	Ruofan Yang	Self-Assembly Sandwich-Like MMT/ZnMPA Supramolecular Nanocomposites Impart Mechanically Strong and Flame Retardancy to Wood Plastic Composites

P17	Guadalupe Sanchez-Olivares	Fire Behavior and Viscoelasticity of Sustainable Thermoplastic Polyurethane Multicomponent Systems
P18	Antonio Vázquez López	Dual-Curing Thiol Epoxy System Temperature Sensor: Relation Between Fire Retardancy and Shape Memory
P19	Mingyang Zhang	A Novel Benchmarking Approach to Assess Fire Safety of Liquid Electrolytes in Lithium-Ion Batteries
P20	Katarina Handlovicova	The Influence of Fire Retardants Combination in Upholstered Furniture Materials
P21	Wanmeng Song	Multi-Functional Finishing of Viscose Fabrics Based on Tea Polyphenols: Integrated Flame Retardant, Antibacterial, Hydrophobic, and UV-Resistant Functionalities

1min pitch poster session 2 (15h20 – 15h55)

P22	Martina Nováková	Flame Retardant for Protection of Valuable Archival Documents
P23	Francesca McKenzie	Protection of Carbon Fibre in Composites from Oxidation Using High-Temperature Veils
P24	Zijian Zheng	Synthesis of Dopa Synergistic Flame Retardant Poss Crosslinker and Its Application in Silicone Rubber
P25	Juan León Ramos	3D-Printed Hydrogel with High Fire Resistance
P26	Immacolata Climaco	Flame Retardant and Shape Recovery Epoxy Nanocomposites Containing Carbon Quantum Dots
P27	Mohammad Fahad Zaki Khan	Design and Synthesis of Bio-Based Benzoxazine Monomers and Polymers Addressing Thermal Stability and Circular Economy
P28	Xue Bi	Restriction of Ce-MOF Growth Within ZSM Zeolite for Robust Threeproofing Thermoplastic Polyurethane
P29	Alessandra Quero	UHMWPE Composites: Effect of Flame Retardant Tannic Acid as Coating Agent and Hardener for Epoxy Resin Systems
P30	Erika Nakashima	Quantitative Evaluation Method for Combustion Behavior During Vertical Flame Test by Video Analysis
P31	Xiaoyan Sun	Predicting the Limiting Oxygen Index of Reactive Rigid Polyurethane Foam Using Machine Learning to Accelerate Flame-Retardant Material Development
P32	Dieu Frosien	Phosphonate-Containing Copolymers via Raft Polymerization as Flame-Retardant Additives for Transparent PMMA Matrix: UL-94 Flame Testing
P33	Miguel Solís	Fireproofing the Future: Coating Strategies for Aluminum Plates
P34	Burcu Ozdemir	Bayesian Optimization Guiding the Investigation of the Pareto Front for Mechanical and Flame-Retardant Properties in Polyamide Nanocomposites
P35	Jean Louis Beckmann	Synergistic Flame Retardant Formulations for Polypropylene: Solutions Based on Organic Disulfides and New Approaches

P36	Meina Xie	Autocatalytic Phthalonitrile Derivatives Modified with Imidazole and Polyoxometalates for Enhanced Flame Retardancy in Thermoplastic Polyurethane
P37	Sreelakshmi Vinod	Synergistic Effect of Silicate on Flame Retardant Glass Fiber Reinforced Polypropylene Composites
P38	Bin Wang	Sulfur-Free Polymeric Flame-Retardant Additives for Regenerated Cellulose Fibers
P39	Miriam Bader	Starch and Bark Residues as Flame Retardants for Artificial Leather Based on Polyurethane
P40	Qi Chen	A Dual-Function Approach Using α -Cyclodextrin for Polyrotaxane Supramolecular Assembly and Flame-Retardant Char Generation for Fire Safety Battery
P41	Apostolos Batsinis	An In-Situ Method for the Quantification of Shear Strength of Intumescent Coating and Char
P42	Zongsheng Liu	A Novel Macromolecular Flame Retardant Based on Sulfonyl Diphenol Monomer for Simultaneous Fire Safety, Transparency and High Performance of Thin-Walled Polycarbonate
P43	Zhicheng Fu	Continuous-Flow Photocatalysis for Scalable Synthesis of Phosphobenzazepine Flame Retardants: Bridging Lab-Scale Innovation to Industrial Fire Safety Solutions
P44	Gizem Okayay	Understanding and Tuning the Battery Thermal Runaway Enclosure Tests by Numerical Simulations
P45	Dawid Zielinski	Ionic Liquids as Flame Retardants and Curing Agents for Epoxy Resins, and the Synergistic Interaction of Phosphorus and Silicon - LIflame Project Concept
P46	Marcin Smiglak	Polycarboxylates - New Opportunities and Application Potential of Branched Polymers in Flame Retardancy
P47	Wang Xie	Integrated Design of Flame-Retardant and Toughening for Carbon Fiber Reinforced Resin Matrix Composites Using Nanofiber Intercalation
P48	Isaac Isarn	Multifunctional Composites Based on Epoxidized Resveratrol Reinforced with CNT and Recycled Short Carbon Fiber with High Fire Resistance
P49	Zhiqi Liu	Preparation of Magnesium Hydroxide Flame Retardant via Unidirectional and Bidirectional Crystal Seeds Injection Modification Method

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